

Haneen's

Once your start,
you will not
STOP!

Illustrated Physical Examinations Guide



An easy, wonderful guide
to study & understand
Physical Examinations!



Re-drawn and created by
Haneen Al-Maghrabi

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some pictures inspirated and created by
Lucci Lugee Liyeung

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Taibah University Medical college
Madinah, KSA

www.liyeung.com

marthad.wordpress.com



Note

This Edition contains the following examinations:
Neurological (lower limb), Vascular, Breast &
Axillary lymph nodes, and Ulcer which created &
drawn by

Haneen Al-Maghrabi

Other examinations: Respiratory, Cardiovascular,
Gastrointestinal and neurological (CN and Upper limb)
systems are created & drawn by

Lucci Lugee Liyeung

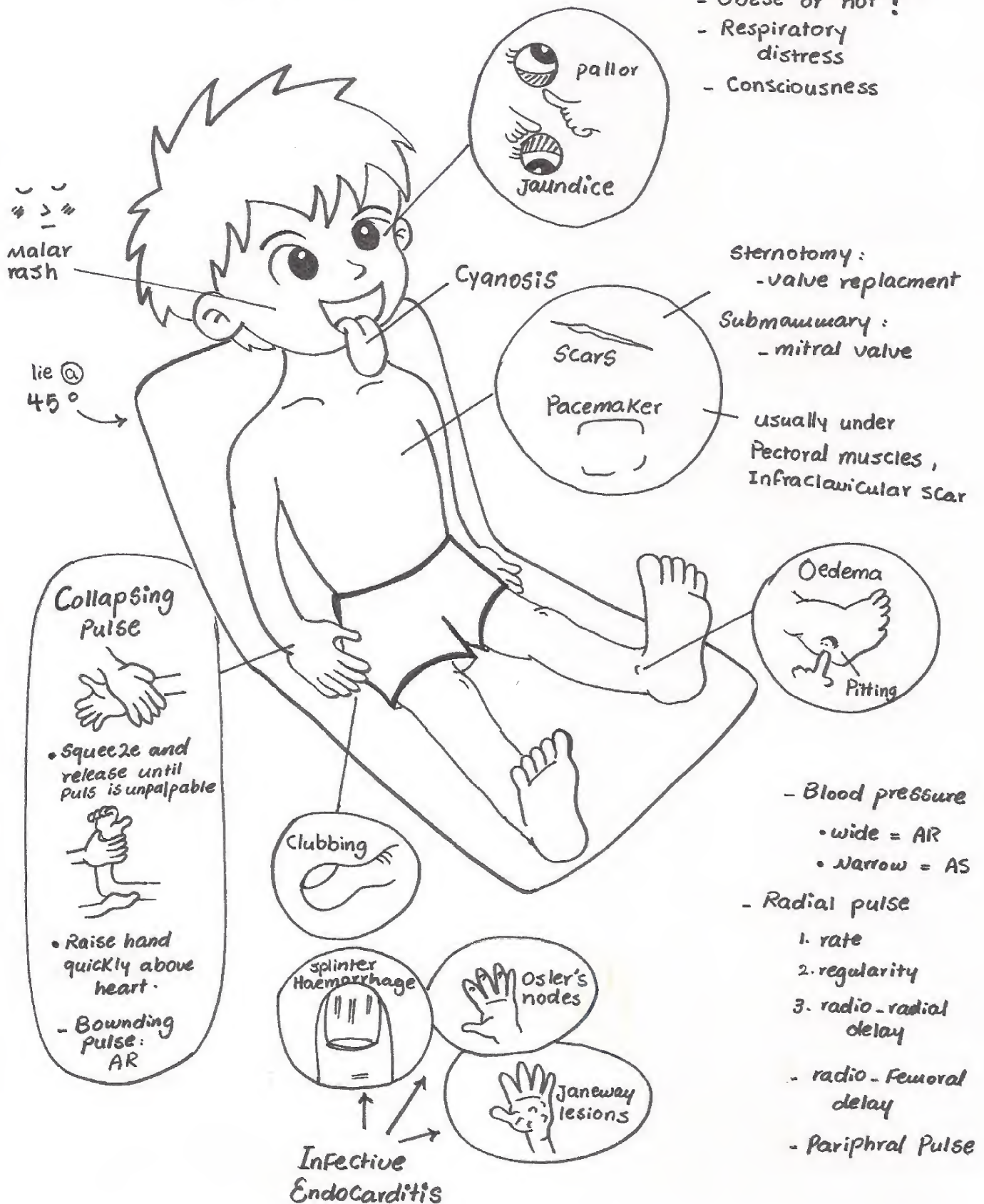
and you can find them at her website, or on the internet

Cardiovascular Examination

1. Inspection

• Also look For :

- oxygen supplements
- Obese or not !
- Respiratory distress
- Consciousness



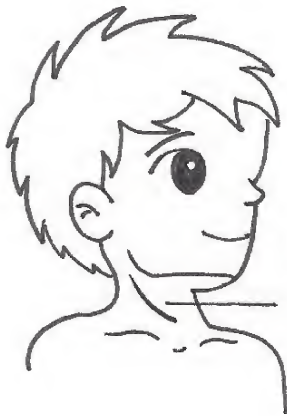
- Blood pressure
- wide = AR
- narrow = AS

- Radial pulse

1. rate
2. regularity
3. radio-radial delay

- radio-femoral delay
- Peripheral Pulse

Carotid pulse



Medial to
Sternocleido-
mastoid
muscle @ level
of thyroid Cartilage

1. character

Slow raising : AS / Collapsing : AR

2. Volume : Increase / decrease

3. Condition of vessel wall



- never palpate both carotid.

- Imp. to tell about
aorta and LV function.

- W.B:

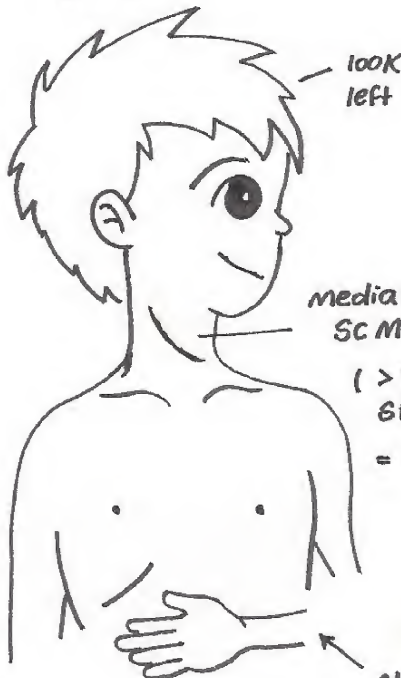
- Rapid outward mov.

- one peak / H.B

- Palpable

- Independent of
respiration

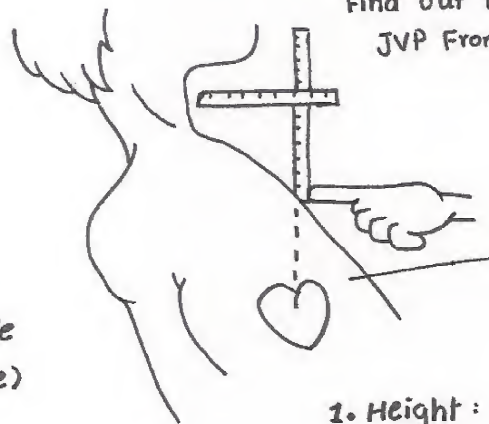
JVP



look left
medial to
SCM
(> 5cm From
Sternal angle
= R. ♥ failure)

Abdomenogaular
reflux :

- Inform the Patient First !
- Press the abdomen For 15 Sec.
- JVP rise and Fall with in 2 Sec.
(X Fall = R. ♥ failure).

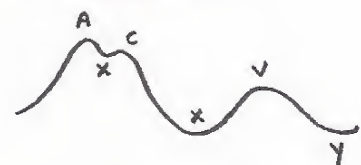


2 - Perpendicular rulers to
find out the level of the
JVP From the sternal
angle.

Assumed to be
5cm above
Right atrium.

1. Height :

2. Character :



- Canon a wave: Complete ♥
Block
- Gaint a wave: Pulm. HTN
- large v wave: TR
- Absent a wave: AF

2. Palpation

A) Apex beat

= most lateral and inferior point

1) Height = medial to mid-clavicular line,
5th Intercostal space.

2) Character:

- Tapping = MS

- Hyperdynamic = AS

Pressure overload: Forceful

- Hypervolaemic = AR / MR

Volume overload: Forceful + displaced

* If Can't feel, turn to
left decubitus / feel right side.

define with
just 1 finger

Start from anterior
axillary line and
move medially



B) Parasternal Heave

= Place your palm on
the left side of the
Sternum (move it up
and down).

= In: - Pulmonary HTN
- Right ventricle
Hypertrophy /
dilatation.



C) Thrills

= Palpable murmur @ apex / parasternal / \heartsuit base

= when present, murmur > Grade 4

Done by: *Haneen
Al-Maghrabi*

3. Auscultation



Palpate Carotid pulse
to differentiate S_1 and S_2

1



bell @ apex
(MS)

2



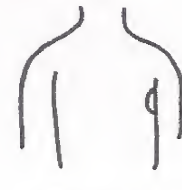
bell @ latlar position
(MS)

3



@ apex
(MR)

4



@ Axilla
(MR radiation)

5



@ T-area
(TR)

6



@ P-area
(AR)

7



lean forward,
Exhale, hold breath.
(AR)

8



Back of
the lung
for
Crackles
(CHF)

9



@ A-area
(AR/AS)

10



bell @ neck
(AS
radiation).

• Describing Findings:

- 1) Heart Sound : $S_1 + S_2$
- 2) Murmur :
 - 1) Phase
 - 2) Best heard @ ...
 - 3) maneuver to \uparrow
 - 4) Radiation
 - 5) Thrill (true \gg grade 4 / true $<$ grade 3)
- 3) other added Sounds.

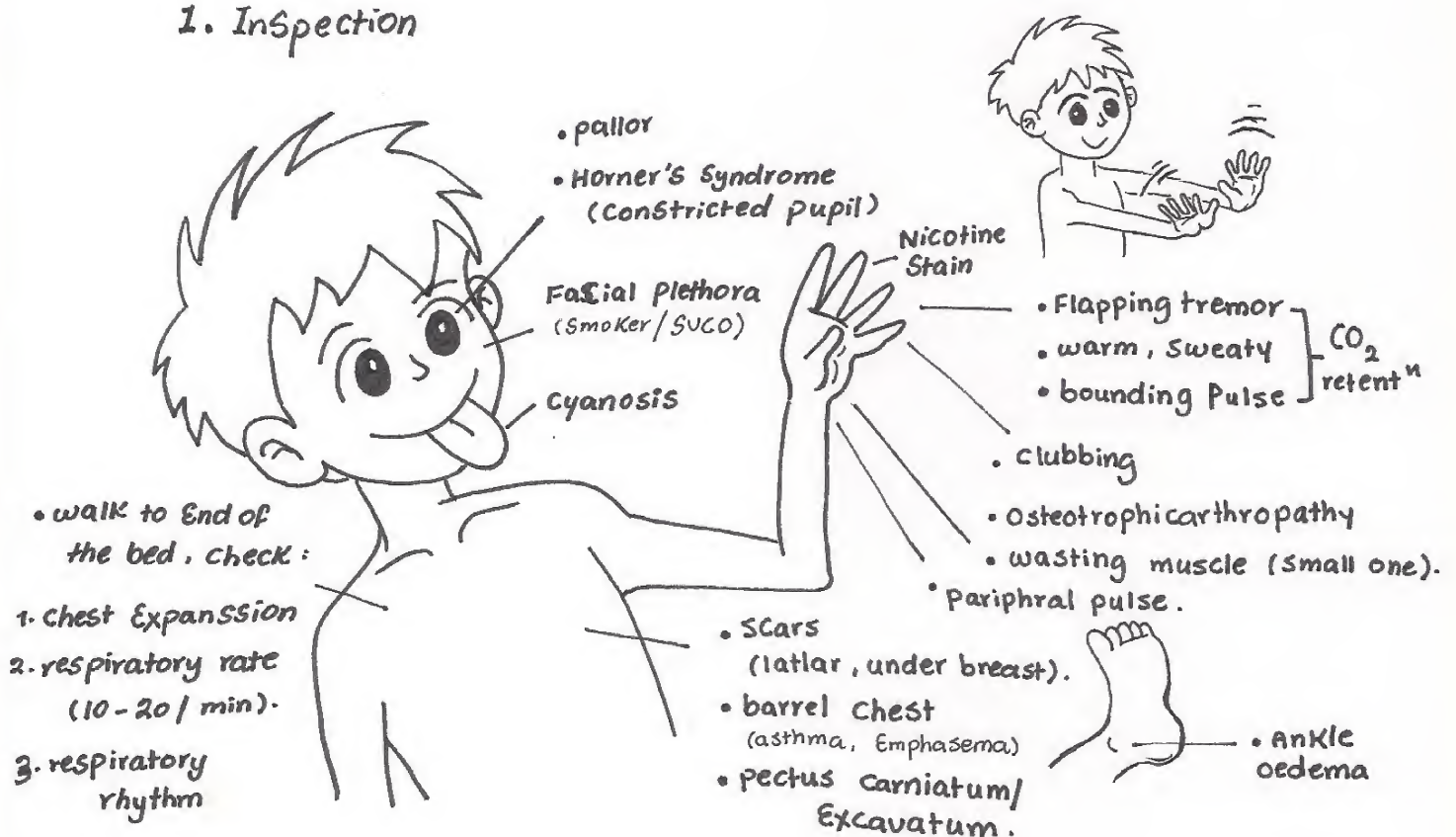
* don't Forget to auscultate with (Respiration, Valsalva maneuver, hand grip)

4) complete your Exam :

- Back : auscultate the base of lung (crackles in HF)
- Abdomen : Hepatomegaly, Splenomegaly, Ascites
- lower limbs : oedema, DVT

Respiratory Examination

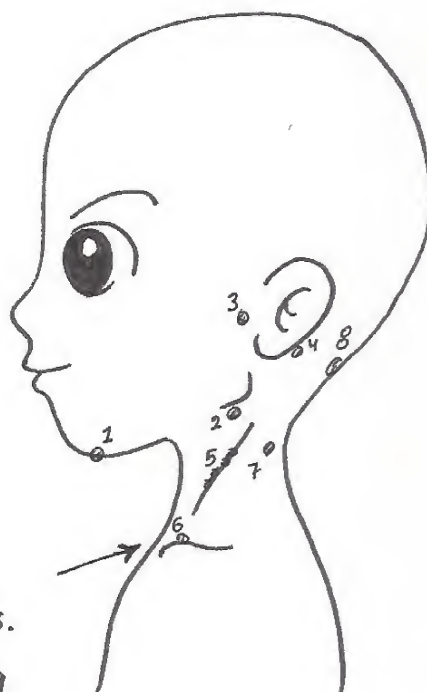
1. Inspection



2. Cervical lymph nodes

(Always palpate from back, normally non-palpable).

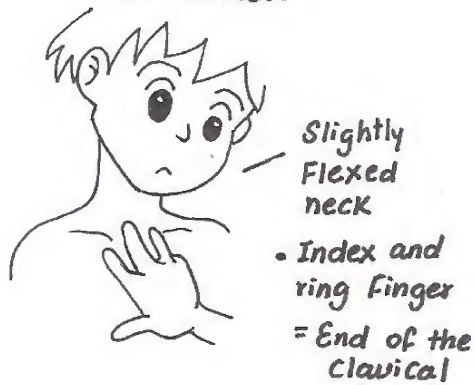
ASK Patient to Shrug Shoulders. Feel by pressing deeply.



1. Submental
2. Submandibular
3. Preauricular
4. Postauricular
5. Jugular Chain
6. Supraclavicular
7. Posterior triangle
8. Occipital

3. Palpation

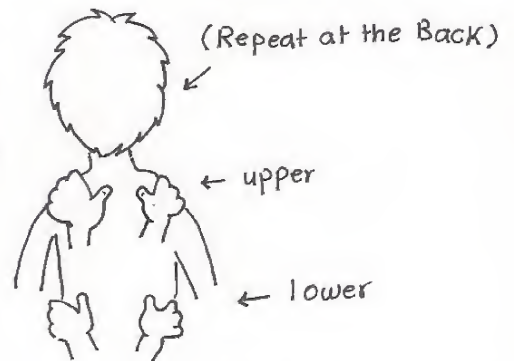
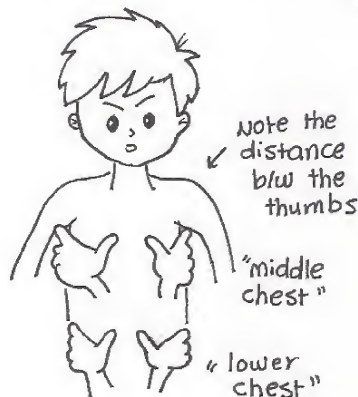
a) Trachea



- middle finger = behind suprasternal notch

⇒ Palpate trachea deviation from the middle line

c) chest Expansion

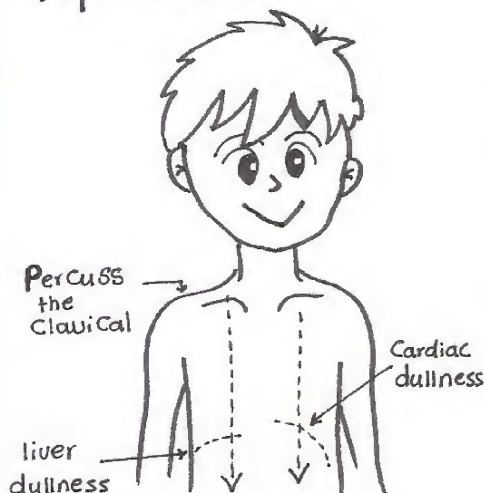


b) Apex beat

- To determine the mediastinal shift of the lower mediastinum
- displaced in hyperinflated chest

[All Done in both Full Expiration and Full Inspiration].

4. Percussion



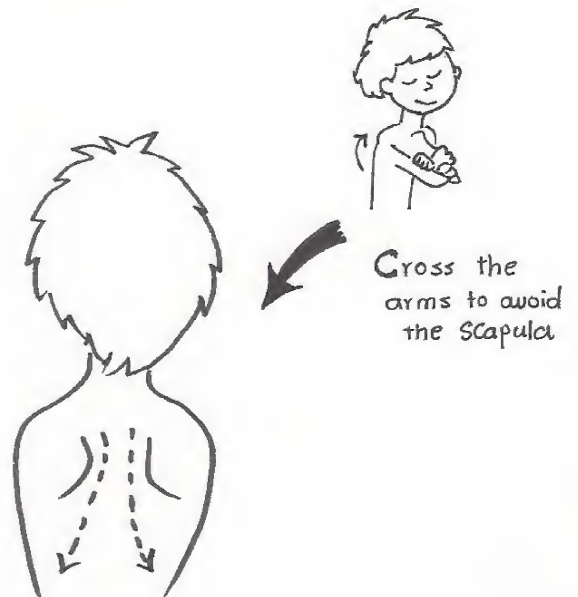
1. Anterior

Compare left and right lung @ each level



2. Lateral

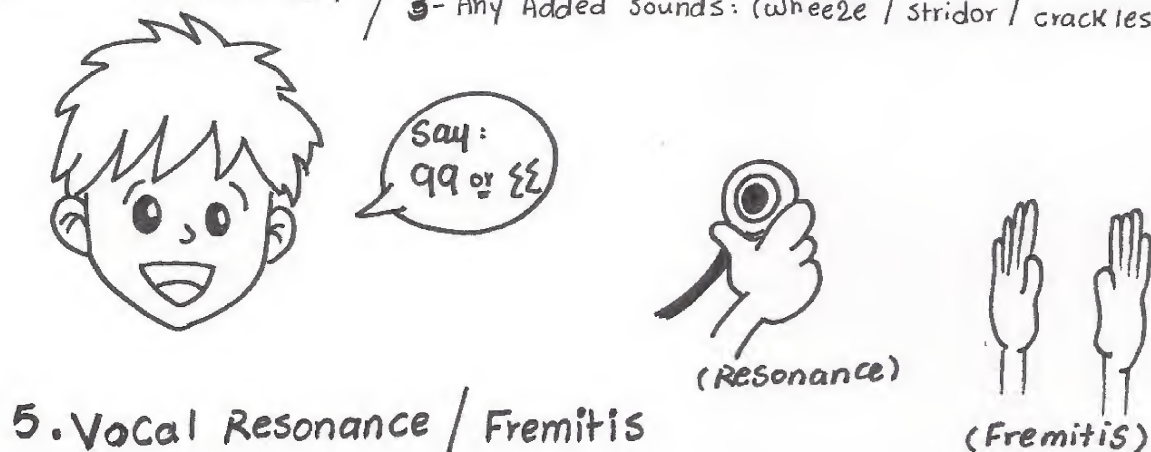
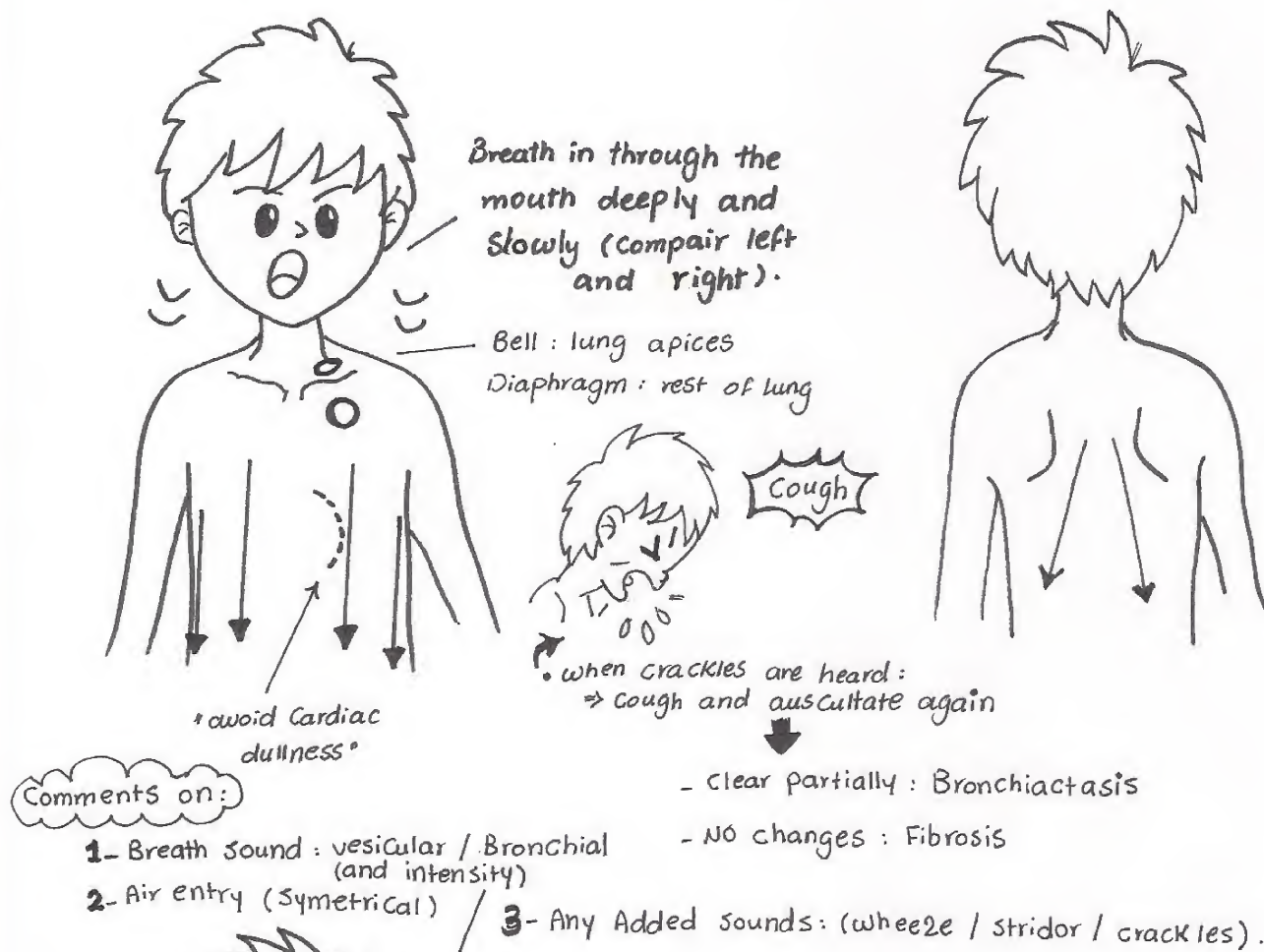
throw the mid-axillary line



3. Posterior

Start at the midline border of the Scapula

4. Auscultation : Breath Sound



5. Vocal Resonance / Fremitus

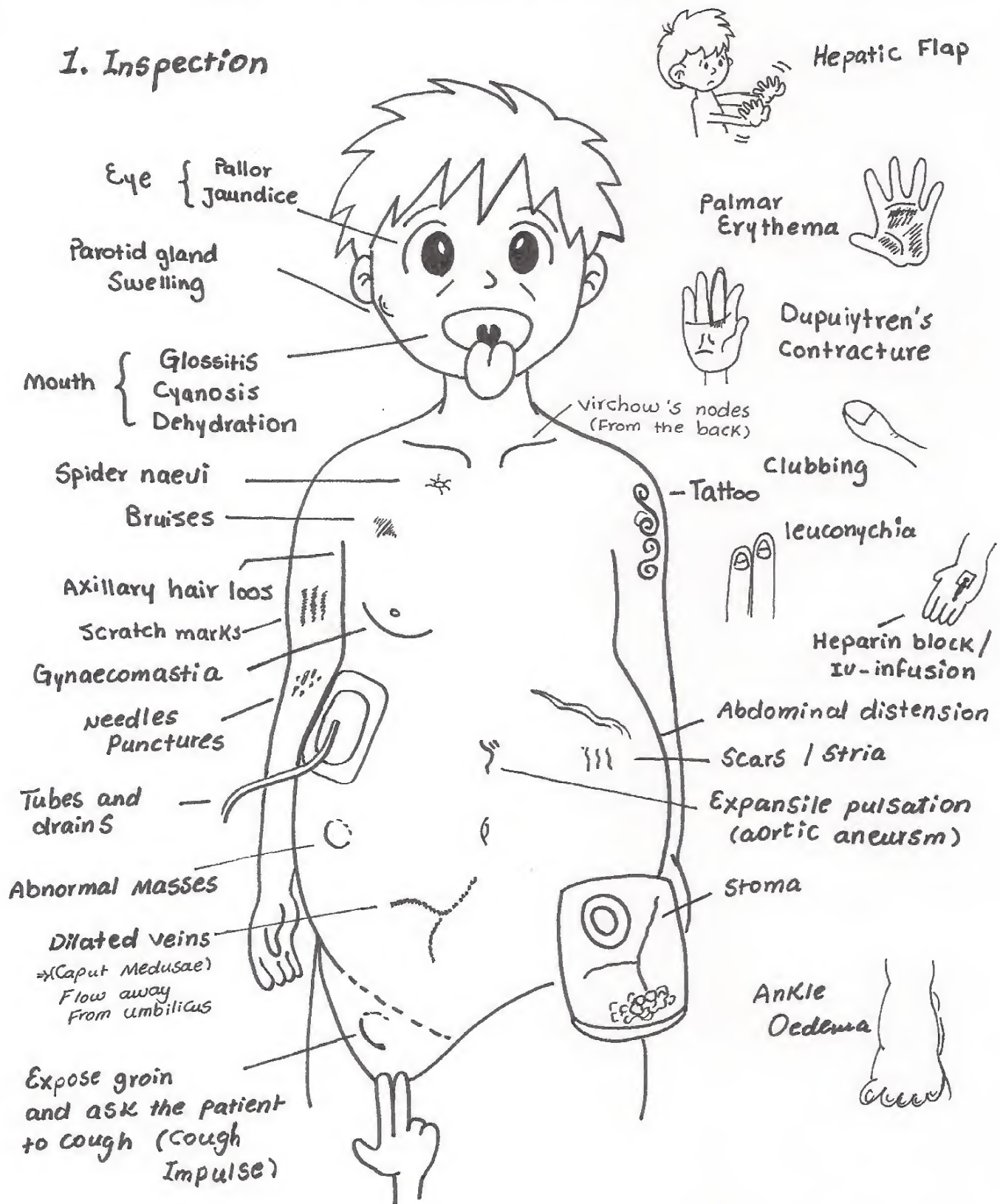
(along the same path as auscultation).

Source : Canvas to my Inspirations, by Loci Lugee Liyeung

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GI - Examination

1. Inspection

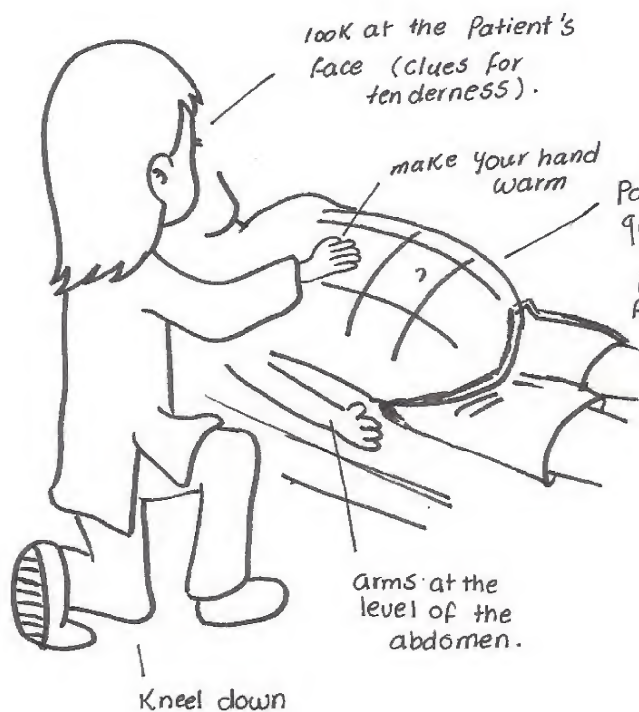


* Lie the Patient Flat on one Pillow, hands on the Sides.

* Proper exposure: From the nipple to the mid thigh / top of Pubic hair

* Inspect the Abdomen from the end of the bed, ask the Patient to take a deep breath.

2. Palpation



light Palpation

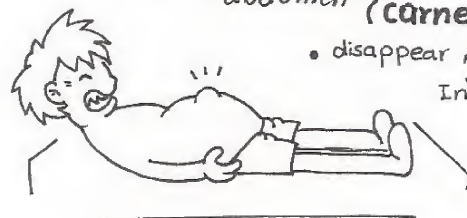
- Flex MP joints
- feel with Pulp of fingers
- look for:
 - Tenderness
 - rebound tend.
 - guarding



Deep palpation

- organomegaly
- deep seated masses

- If a mass is felt, ask the Pt. to flex his / her neck, look at the abdomen (Carnett's test).



- disappear mass
Intra-abd.
- still the mass is in
Abd. wall mass

3. liver

Palpation

Inspire and Expire



⇒ Start at RIF, Press firmly during inspiration, feel for liver hitting.

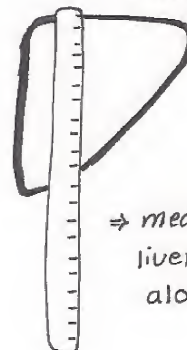


⇒ move up during Expiration.

percussion



- First confirm lower border
- Then find upper Border



⇒ measure liver span along MCL

4. Spleen Examination

Spleen Exam?

suggest: percussion (first) → ⊕ → palpation
 → ⊖ → that's it u/s.
 when percussion is positive.

How to Examine the Spleen

Gen:

- Patient's upper body uncovered (cover women's breast with a folded towel). Legs should be covered till symphysis pubis (groin exposed).
- Stand on patient's right.

Inspection: Supine pt. Look for fullness in the LUQ

(left upper quadrant)

Percussion: 3 methods

spec 96% sens 60% **Nixon's method:** Patient in rt. Decubitus position.

Find out the mid point of Lt. Costal margin

Start percussing at that point and percuss along a line, perpendicular to left costal margin

If dullness felt for more than 8cm, spleen is enlarged.

spec 83% sens 82% **Castell's Method:** patient supine

Percuss at the lowest ICS in left ant. Axillary line.

Percuss in expiration and full inspiration both.

Normally no dullness but if you feel dullness or it appears on full inspiration, it is abnormal

spec 72% sens 62% **Traube's space:**

Supine with left arm slightly abducted

TS: bounded by Left costal margin, 6th rib superiorly and left mid axillary line

Percuss at different levels in the space, going med to lat.

Patient breathes normally

N: resonant

Palpation:

3 methods (low sens 27%, spec 98%).

2 hand method:

Pt. Rt decubitus position

examiner's left hand is kept on the patient, flat on the left lower costal

margin, going from front to back, try to lift the lower rib cage ant and med.

Ask patient to breath deeply. With the tips of the rt. Hand fingers, gently press just underneath the lt. Left costal margin.

If don't feel anything, lower the rt. Hand by 2 cm towards umbilicus and repeat the procedure.

One hand method: patient supine.

No pressure applied to the rib cage. Otherwise identical to the 2-hand approach.

Hook method:

Supine

Keeps a fist under his lf. Costovertebral angle

Stand on pt's left, facing his leg

With fingers of both hand, make a hook and curl under pt's left lower costal margin and ask him to breath deeply.

Never able to feel the upper border of spleen.

Normally spleen lies

Measure 12 cm in length and 7cm in width

Normal dullness is felt between 9-11 ribs while pt is in rt decub

In normal asymptomatic individuals, with pretest probability of 10% or less, routine exam can not r/I or r/o splenomegaly.

If pretest 10% or more, start with percussion:

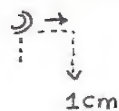
- if percussion neg, no need to palpate (not sens or specific). If suspicion remains high, go for US.

5. Ascites Examination

- a) Shifting dullness
- b) Fluid thrill (massive ascites).

6. Auscultation

- Bowel Sound



Below Umbilicus, absent → if more than 4 min
(Paralytic ileus)

- Friction rubs on liver, Spleen
- venous hums, Continuous low pitched murmur b/w
Xiphisternum and umbilicus (Portal HTN)
- Bruits, Renal Artery Stenosis.



- 7. Complete your Exam by doing PR and inspect the groin For Hernia (ask the Pt. to cough), and testicular atrophy
(This point For Surgery).

Source: Canvas to my inspirations, by Lucci luguee liyeung

Done by:

Laneen Al-Maghrabi

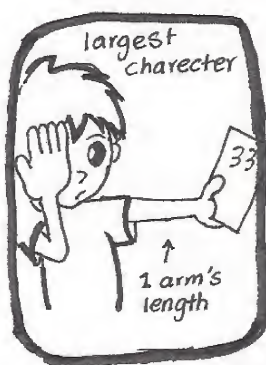
Central Nervous System

Comment, Conscious, alert and oriented.

CN 2

1. visual acuity

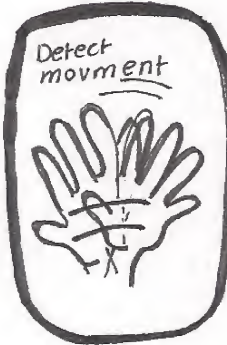
- one eye @ a time, wear →
glasses if necessary.



NO



NO



NO



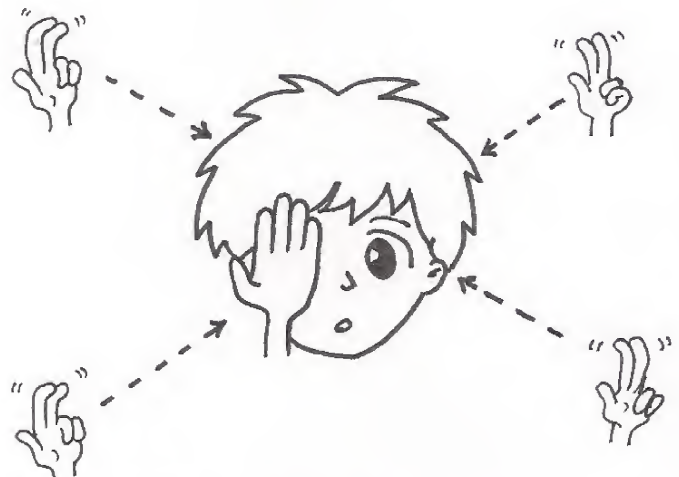
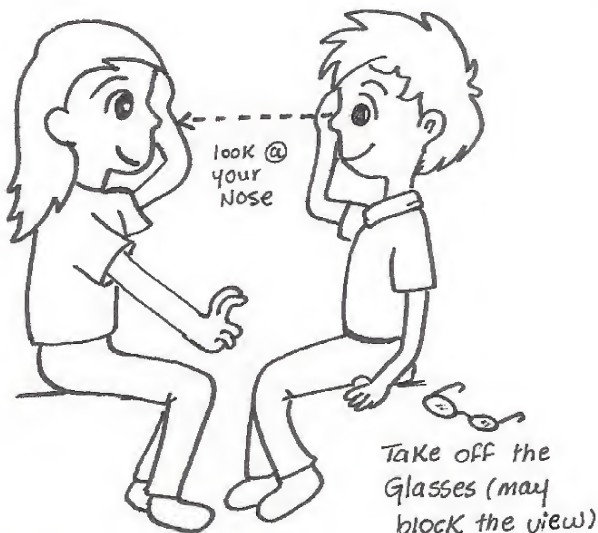
NO

Blind!

*if the pt. is blind, the Exam can't go on.

2. visual field

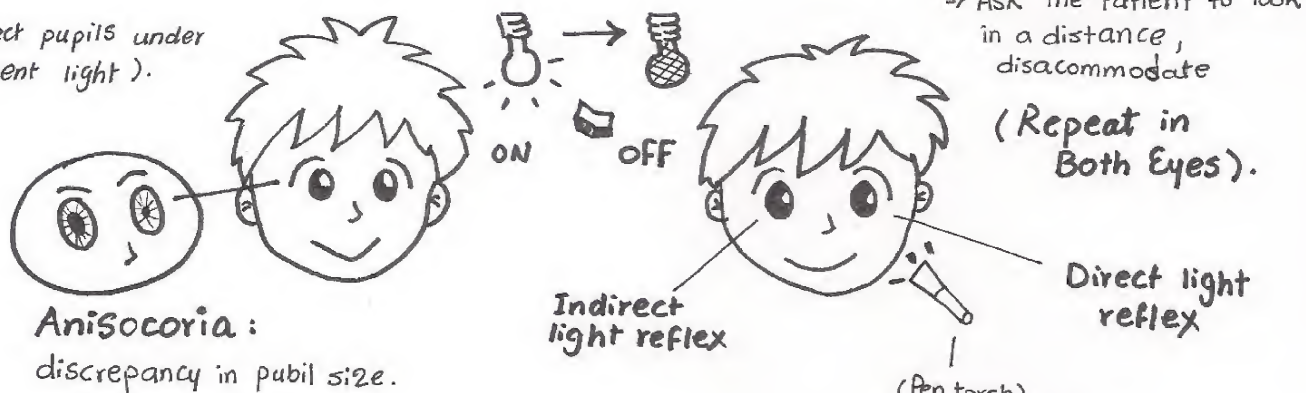
- sit on bed side, eyes
at the same level.



- Move hands From Far corner towards center.
- Keep fingers wiggling.
- Ask Pt. when he/she can see the fingers + Compare w/ your own field.
- Repeat all 4 corners, both Eyes.

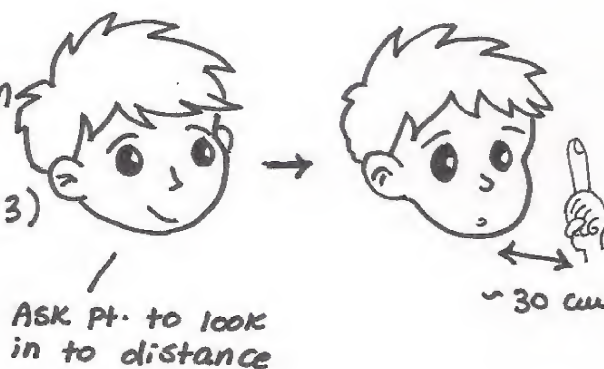
3. Indirect and direct light reflex (In by CN 2 / out by CN 3)

- (Inspect pupils under ambient light).



4. Accommodation reflex.

(In by CN 2 / out CN 3)



(Pen torch),
Shine upwards
inferior to lower lid.

⇒ Normally:
Constriction

upon focussing on close
object (convergence)
Pupil should constrict

5. ophthalmoscopy / Fundoscopy.

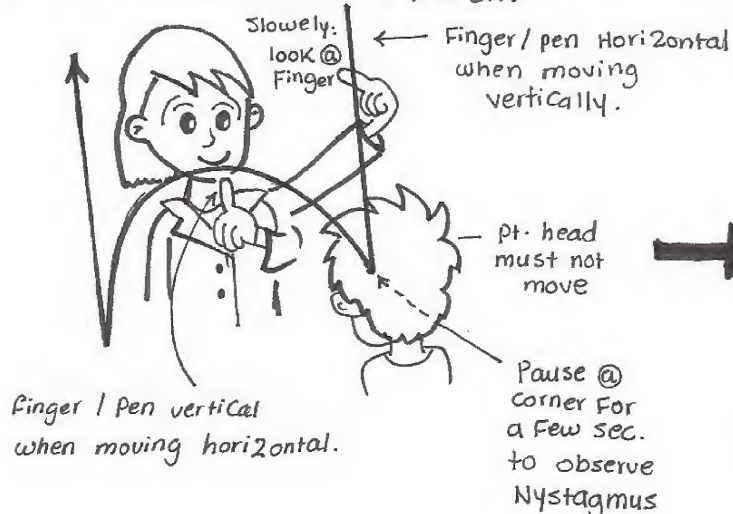
CN 3, 4, 6

1. Ptosis

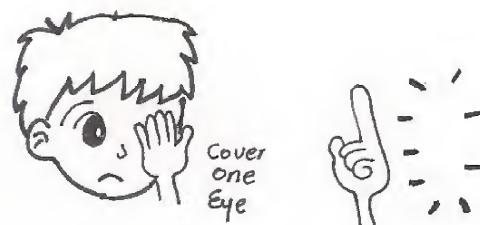
CN III lesion,
levator palpebrae
superioris



2. ExtraOcular Movment



When Diplopia is seen!



- If Peripheral image disappears,
Covered Eye has a problem.
- If central image disappears,
Uncovered Eye has a problem.

Problem Eye sees Peripheral!

CN 5

1. Sensory



- Close Eyes
- Examine for
 1. Pinprick
 2. light touch
- Examine both: (ophthalmic, maxillary, mandibular area)

3. muscles of mastication



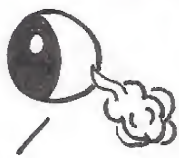
1 Temporalis m.

2 Masseter m.

Clench your teeth

push

2. Corneal Reflex



(afferent V, Effrent VII)

look @ opposite direction

Cotton tip

⇒ Normal: Blink



3 Pterygoid muscle

CN 7

- First check for Asymmetry



Frontalis



Orbicularis Oculi



Buccinator

UMNL

- Contralateral lower Face Paralysis
- upper Face spared



LMNL

(Distal to CN 7 nucleus)

- Ipsilateral upper and lower Face Paralysis

PNS - upper Limbs

1. Inspection

- wasting / atrophy
- Fasciculation
- Skin changes
- Features of parkinsonism

(Spontaneous, abnormal twitching)



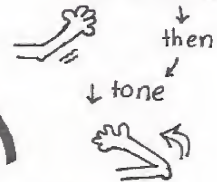
2. Tone

a) lead pipe rigidity
(↑ tone in Flexion and Extension).

b) Cogwheel rigidity



c) clasp Knife spasticity
↑ tone @ start



Dominant hand more powerful -

3. Power

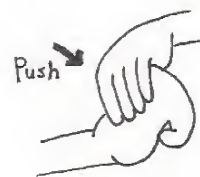
C5 Shoulder abduction
deltoid - axillary n.



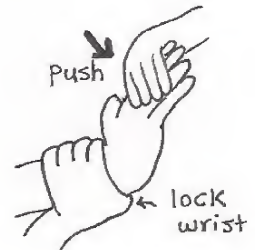
C6 Elbow Flexion
Biceps muscle - musculocutaneous N.



Wrist Extension
ECR - Radial nerve



Finger Extension
ED - PIN



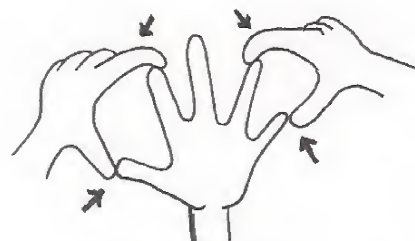
C7 Elbow extension
Triceps - Radial nerve



C8 Finger flexion
flexor digitorum
median - ulnar n.



T1 Finger / Thumb Abduction



- Dorsal Interosseus - ulnar nerve
- Abd. pollicis brevis - median nerve

4. JerKS

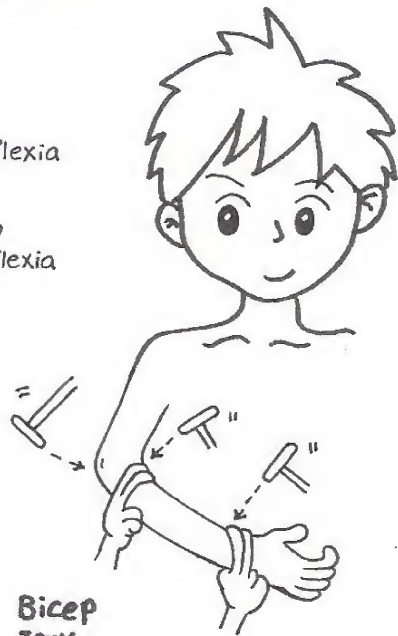
UMNL,
Hyper-reflexia

LMNL,
Hypo-reflexia

Tricep
Jerk
C6-C7

Bicep
Jerk
C5-C6

Brachioradialis
Jerk C6



5. Coordination

(cerebellum)

1.



- point at nose, then finger, nose ... etc
- ⇒ fail = past Pointing

2.



clap hands when turning one over and over.

fail = Dysdiadochokinesia.

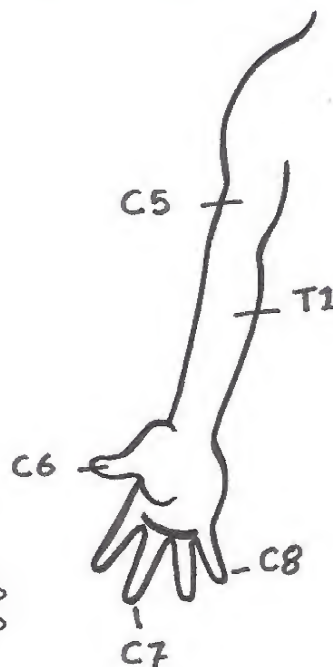
3.



Rebound to original position

6. Sensation

- PinPrick / Pain (spinothalamic)



- Proprioception (Dorsal column)



- Hold the nail, to feel the pressure

up



- ① move the Finger up and down few times

Down

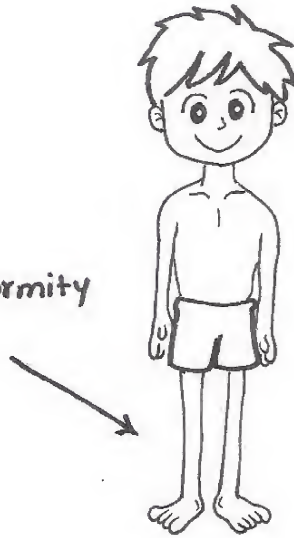


- ② start from most distal joint then progress Proximally

PNS - Lower Limbs

1. Inspection

- Skin changes
- muscle wasting
- Fasciculation
- Asymmetry / deformity
- Tremor



2. Tone



- ASK the Pt. to relax
- Assess by feeling the muscle resistance!

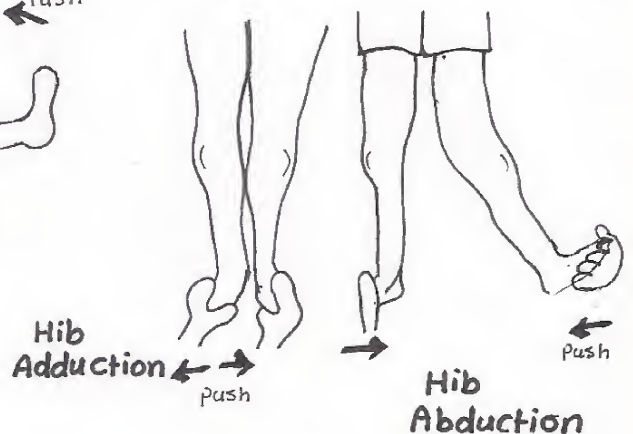
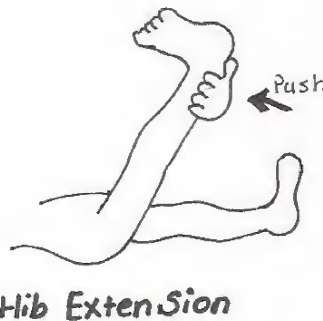
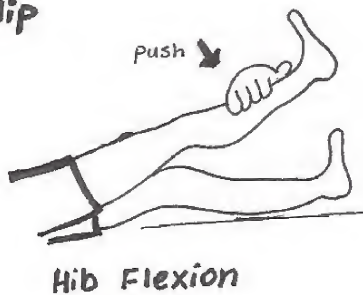
=> Note:

1. Clasp - Knife
 2. Lead pipe
 3. Cogwheel
 4. Hypotonia
- } Hypertonia

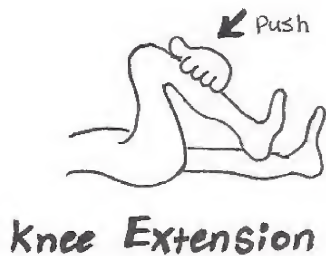
3. Power

(Push against Resistance).

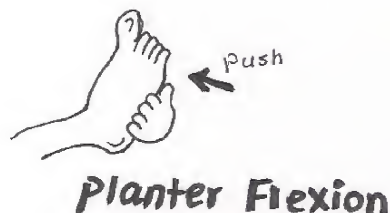
a) Hip



b) Knee



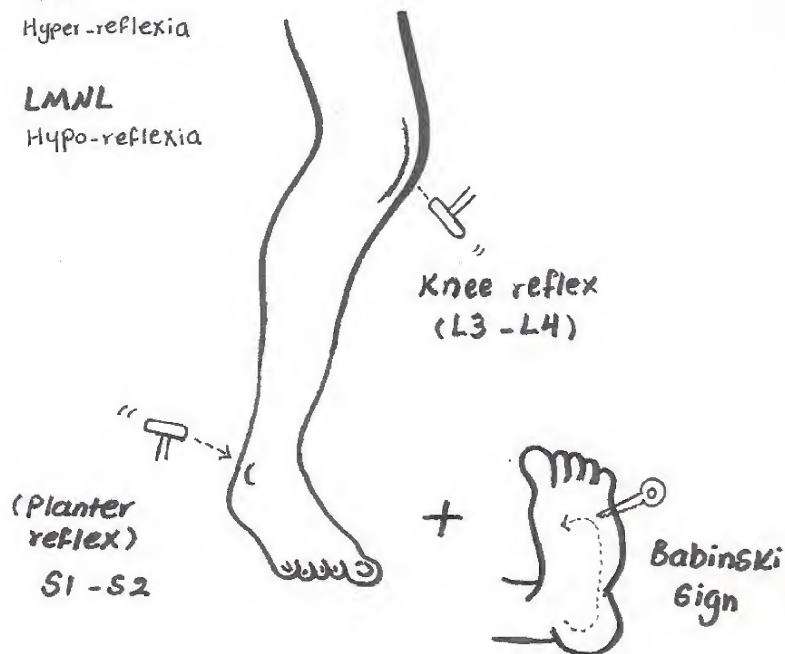
c) Ankle



4. Jerks

UMNL
Hyper-reflexia

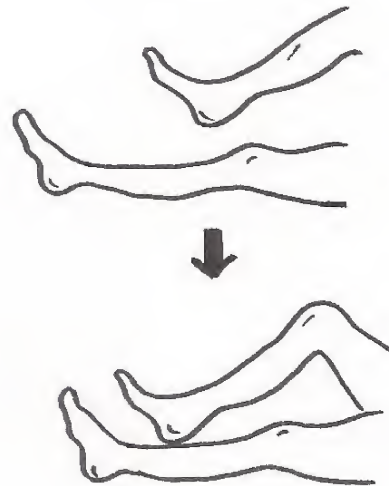
LMNL
Hypo-reflexia



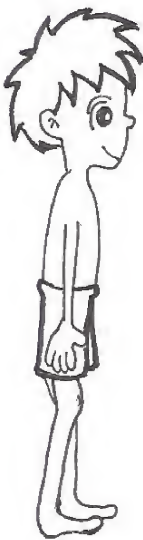
5. Coordination

(Heel-shin test).

⇒ For cerebellar lesion



6. Gait

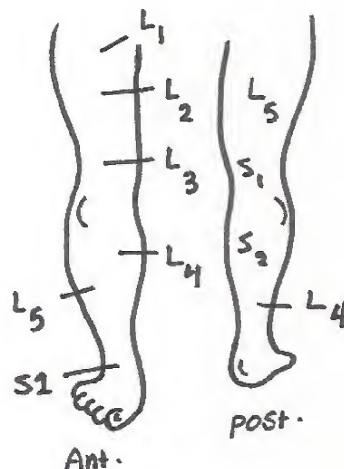


- ASK the Pt. to walk:
 - walk heel-to-toe
 - walk on toes.
 - walk on heels
 - Squat and then Stand
 - Romberg test

(Ability of the Pt. to maintain the upright posture, when he/she is closing both eyes for 20-30 sec.).

7. Sensation

- Spinothalamic
(Pain / temp.)
- Post. columns
(vibration / Proprioception / light touch).



The End

Source : Canvas to my
Inspirations
by 'lucci lugee'

Done by:

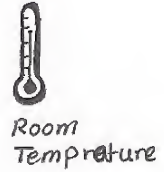
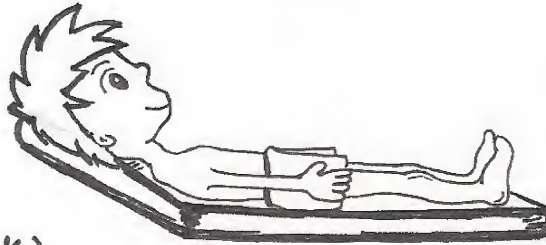
Haneen
Al-maghrabi

Vascular Examination

A) Local Examination

• First, Prepare your patient:

- 1 - warm room
- 2 - Supine position
- 3 - Expose both legs



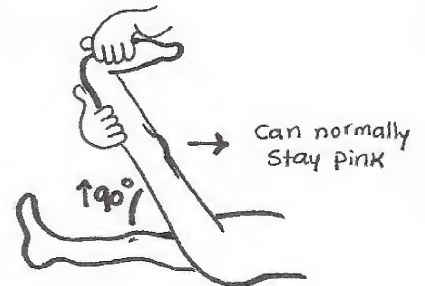
• Inspection

- 1 - colour (white, blue, black)
- 2 - Trophic changes
 - Shiny Skin
 - loss of hair
 - Ulcers

* don't forget to look @ pressure areas.

3 - vascular angle (Buerger's angle):

- ⇒ The angle which the leg must be raised before it becomes white
- ⇒ In normal person (Elevation $> 90^\circ$ → Stay Pink)
- ⇒ $\downarrow 20^\circ$ → severe Ischemia

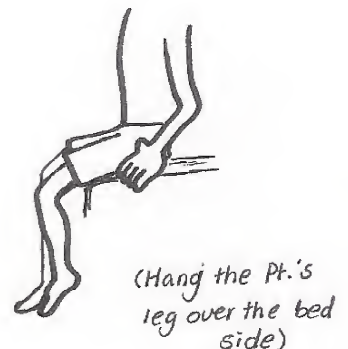


4 - Capillary Filling time (Buerger's test):

- ⇒ Ask the Patient to hang his legs down over the side, **Normal leg** → remain pink
- Ischemic leg** → (white → pink → Purple red)

5 - Guttering of the veins.

Observe any pale blue gutters in the subcut-tissues.



• Palpation

- 1- ask the Pt. if there's any Pain (watch her/his face)
- 2- Feel both legs Temperature
- 3- Capillary Refilling

⇒ Press the tip of the nail / pulp of a toe,
for 2 sec. and observe the time needed
to turn pink.



← Press and observe

4- Feel all the Pulses , and compare :

- Femoral pulse: mid-way b/w Symphysis pubis and ASIS
 - Popliteal Pulse : b/w two head of gastrocnemius muscle
 - Dorsalis pedis : b/w the first two metatarsals , near upper end of the first Intermetatarsal space.
 - Posterior tibial : halfway along the line b/w medial malleolus and the heel .
- 5- test the muscle , nerves for immobility , weakness , tenderness and numbness.

• Auscultation



Use the bell to auscultate for Bruits
over : Iliac , Femoral and popliteal
Arteries.

B) General Examination

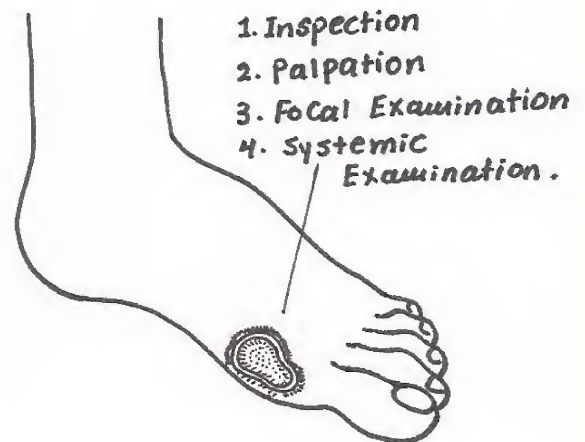
- CVS
- Abdomen , for aortic aneurysm
- Carotid bruit
- Radio-Femoral delay.

Haneen
Al. maghrabi
Good Luck ..

Ulcer Examination

1. Inspection

- 1) Size and Shape of Ulcer (2 dimension)
- 2) Number of ulcer
- 3) Location:



on the medial aspect
of the lower $\frac{1}{3}$ of
the leg.



at the line
joining the angle
of the mouth
to the ear lobule.



Common in the neck,
over the site of tuberculous lymphadenopathy



ulcer in the weight bearing area
(over the heel, over the Sacrum)



Occur over the Dorsum of the
foot and toes.

4) Margin and Edge:

• Margin

Border, (Transitional Zone)
of the skin around the ulcer.



• Edge

The mode of union b/w the floor
and the margin of the ulcer.



5) **floor** : The Exposed Surface of the ulcer .



- Inspect the floor and note :

- 1) Type of Granulation tissue
(Healthy , unhealthy , Pale Flat).
- 2) Slough (necrotic soft tissue).
- 3) Discharge

6) Surrounding area (Skin)



Redness of Skin
↓
Shiny, inflamed
"cellulites"



Dark
Pigmentation
↓
varicose
vein
"venous ulcer"



multiple
Scars
and
Puckering
↓
Commonly
in the neck
"TB"



Hypopigmentation
↓
Non-
healing
ulcer

2. Palpation

a) Surrounding Skin (Temperature , Tenderness).

b) wear gloves , Palpate the ulcer for :

- Edge : Soft (healing ulcer)
Firm (non-healing ulcer)
Hard (malignant ulcer)

- Floor : Comments on bleeding on touch,
healthy → pinpoint bleeding
malignant → bleed profusely

- Base : (where the ulcer rest on)

note: - Consistency
- underlying structure , muscle , fascia , Bone.



c) Test the Fixity to structure :

move the ulcer side to side
in 2 different directions .



3. Focal Examination

3

a) palpate regional Lymph node :

Hard , discrete and tender → malignant

Soft , tender → Infective

non - tender , matted → TB

b) Examine the related vessels and nerves :

c) Test the movement of neighboring joint :

⇒ Test for active and passive movement

⇒ Restricted movement → muscle , tendon involvement.

4. Systemic Examination

CVS → congestion (CHF) , delays ulcer healing .

RS → For TB

GI → Splenomegaly , Hemolytic anemia , leg ulcers .

Reference : Cassette Clinic videos

Done by :

Haneen
Al-maghrabi



Haneen's

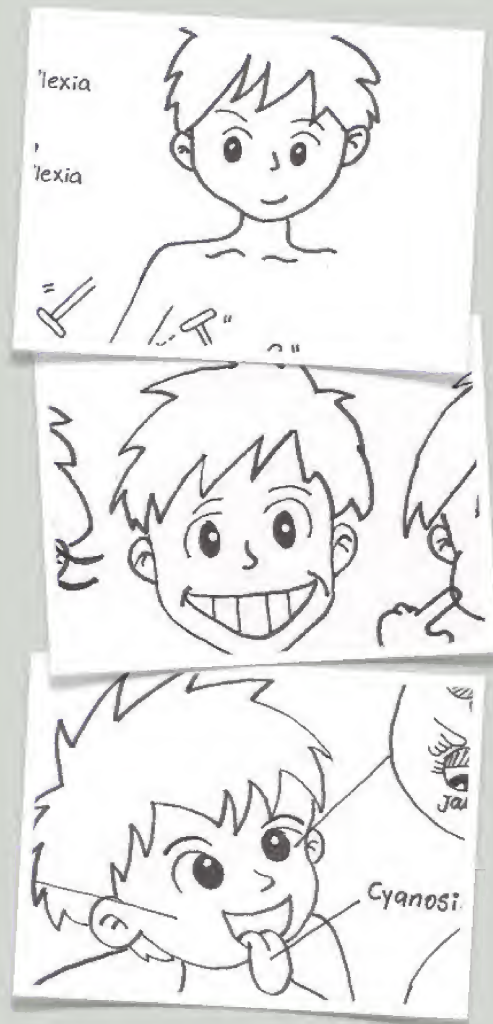
Illustrated Physical Examinations Guide

"A picture is worth more than thousand words!"

This illustrated guide comes today, to make physical examinations more easy to understand enjoyable to study, better to remember!

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We hope that those examinations become very easy, enjoyable to study and to remember!



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